concerning 37 CFR 1.821(c). The Specification has been amended as described above, in order to correct obvious typographical errors.

At the outset, Applicants bring to the Examiner's attention the NOTICE OF INCOMPLETE APPLICATION issued on 4/20/94 in the co-pending parent application, Serial No. 08/212,185. Applicants responded on 5/26/94 with a PETITION FOR FILING DATE UNDER 37 C.F.R. § 1.53(b) which was favorably received in the DECISION ON PETITION issued by the Special Program Examiner on August 8, 1994. Copies of these papers are included in the present filing.

Support for the newly added claims can be found throughout the present Specification as indicated below, and more specifically in the Specification as originally filed on March 19, 1992, *see* lines 1-21 on Page 37 of the present Specification. Support for Claims 69-80 as related to the properties of the claimed RRFs may be found on lines 18-29 of Page 4; on lines 1-12 of Page 8; on lines 13-24 of Page 12; and throughout the first three Examples. Further support to the claimed sequence homology between SEQ ID NOs:2 and 4 may be found on lines 8-10, and 15-22 on Page 6; on lines 3-5 of Page 20; and throughout Figure 8b. Further support for Claims 79-80 may be found on lines 15-18 of Page 6; Claims 14 and 15; lines 25-27 on Page 32; on lines 6-8 of Page 35; and throughout the first three Examples. Further support for Claims 81 and 99 may be found in the Specification on line 18 of Page 4 through line 3 of Page 5, on lines 1-12 of Page 8, on lines 13-24 of Page 12, on lines 3-10 of Page 21, and in Figure 8B, on lines 10-30 of Page 35, and throughout the Examples. Further support for Claims 82 and 92 may be found on lines 8-10 of Page 21, and in Figure 8B of the Specification. Further support for Claim 83 may be found on lines 28-30 of Page 20 of the Specification. Further support for Claims 84-86 may be found in the Specification on lines 1-8 of Page 5, on lines 22-29 of Page 7, on lines 4-18 of Page 26, line 4 of Page 83 through line 27 of Page 87, and in Figures 19-23. Further support for Claim 87 may be found on Page 5, lines 10-14, and Page 7, lines 1-2 of the Specification. Further support for Claims 88-90 may be found in the Specification on Page 7, lines 9-20, on Page 8, lines 1-12, on Page 24, lines 23-29, on Page 36, lines 7-24, and in Figure 18. Further support for Claims 93-96 may be found in the Specification on lines 2-7, and 14-26, of Page 10, on lines 5-12 of Page 11, and on lines 15-18 of Page 16. Claims 1, and 69-96 remain for consideration.

Attached hereto is a marked up version of the changes made to the Specification and claims by the current amendment. The attached page is captioned "Version with marking to show changes made."

No additional fees are believed to be necessitated by the foregoing amendments. However, should this be erroneous, authorization is hereby given to charge Deposit Account No. 11-1153 for any underpayment, or credit any overages.

Applicants respectfully request entry of the foregoing amendment into the file history of the above-identified Application being filled herewith. Early and favorable action on the pending set of Claims is earnestly solicited.

Respectfully submitted,

Michael D. Davis

MICHAEL D. DAVIS
Attorney for Applicant(s)
Registration No. 39,161

KLAUBER & JACKSON
411 Hackensack Avenue
Hackensack, New Jersey 07601
(201) 487-5800
Date: June 7, 2001

"VERSION WITH MARKING TO SHOW CHANGES MADE."

IN THE SPECIFICATION:

The paragraph on Page 1, beginning on line 6 directly under the subtitle: "CROSS-REFERENCE TO RELATED APPLICATIONS " has been amended as follows:

The present Application is a Continuation of copending U.S. Ser. No. 09/488,442 filed January 20, 2000 which is a Continuation of copending U.S. Ser. No. 08/948,547, filed October 10, 1997, and issued as U.S. Pat. No. 6,124,118, which is a Continuation of U.S. Serial No. 08/820,754, filed Mar. 19, 1997 and issued as U.S. Pat. No. 5,976,835, which is a Division of U.S. Ser. No. 08/212,185, filed Mar. 11, 1994 which is a Continuation-In-Part of ~~copending~~ U.S. Serial, No. 08/126,588 and ~~copending~~ U.S. Serial, No. 08/126,595, both filed Sep. 24, ~~1994~~ 1993, both now abandoned, which are both Continuations-In-Part of ~~copending~~ U.S. Serial, No. 07/980,498, filed Nov. 23, 1992, now abandoned, which is a Continuation-In-Part of U.S. Serial, No. 07/854,296, filed Mar. 19, 1992, now abandoned, the disclosures of which are hereby incorporated by reference in their entireties. Applicants claim the benefits of these Applications under 35 U.S.C. § 120.

The last paragraph on Page 5 has been amended as follows:

The recognition factor is now known to comprise several proteinaceous substituents, in the instance of IFNα and IFNγ. Particularly, three proteins derived from the factor ISGF-3 have been successfully sequenced and their sequences are set forth in FIGURE 1 (SEQ ID NOS:1, 2), FIGURE 2 (SEQ ID NOS:3, 4) and FIGURE 3 (SEQ. ID NOS.5, 6) herein. Additionally, a murine gene encoding the 91 kD protein (*i.e.*, the murine homologue of the human protein having an amino acid sequence of SEQ ID NO:4) has been identified and sequenced. The nucleotide sequence (SEQ ID NO:7) and deduced amino acid sequence (SEQ ID NO:8) are shown in FIGURE 13A-13C.

The second full paragraph of Page 7, beginning on line 9 has been amended as follows:

In a specific example, the receptor recognition factor represented by SEQ ID NO:4 possesses the added capability of acting as a ~~translation protein~~ transcription factor and, in particular, as a DNA binding protein in response to interferon-γ stimulation. This discovery presages an expanded role for the proteins in question, and other proteins and like factors that have heretofore been characterized as receptor recognition factors. It is therefore apparent that a single factor may indeed provide the nexus between the liganded receptor at the cell surface and direct participation in DNA transcriptional activity in the nucleus. This pleiotypic factor has the following characteristics:

a) It interacts with an interferon-γ-bound receptor kinase complex;

b) It is a tyrosine kinase substrate; and

c) When phosphorylated, it serves as a DNA binding protein.

The bridging paragraph between Pages 8 and 9, beginning on line 29 of Page 8 has been amended as follows:

The present invention also relates to a recombinant DNA molecule or cloned gene, or a degenerate variant thereof, which encodes a receptor recognition factor, or a fragment thereof, that possesses a molecular weight of about 113 kD and an amino acid sequence set forth in FIGURE 1 (SEQ ID NO:2); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding the 113 kD receptor recognition factor has a nucleotide sequence or is complementary to a DNA sequence shown in FIGURE 1 (SEQ ID NO:1). In another embodiment, the receptor recognition factor has a molecular weight of about 91 kD and the amino acid sequence set forth in FIGURE 2 (SEQ ID NO:4) or FIGURE 13 (SEQ ID NO:8); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding the 91 kD receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 2 (SEQ ID NO:3) or FIGURE 13 (SEQ ID NO:8). In yet a further embodiment, the receptor recognition factor has a molecular weight of about 84 kD and the amino acid sequence set forth in FIGURE 3 (SEQ ID NO:6); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding the 84 kD receptor recognition factor

has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 3 (SEQ ID NO:5). In yet another embodiment, the receptor recognition factor has an amino acid sequence set forth in FIGURE 14 (SEQ ID NO:10); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding such receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 14 (SEQ ID NO:9). In still another embodiment, the receptor recognition factor has an amino acid sequence set forth in FIGURE 15 (SEQ ID NO:12); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding such receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 15 (SEQ ID NO:11).

The fifth paragraph of Page 17, beginning on line 23 has been amended as follows:

- - FIGURE 1A-1E depicts the full receptor recognition factor nucleic acid sequence and the deduced amino acid sequence derived for the ISGF-3α gene defining the 113 kD protein. The nucleotides are numbered from 1 to 2553 (SEQ ID NO:1), and the amino acids are numbered from 1 to 851 (SEQ ID NO:2).

The sixth paragraph of Page 17, beginning on line 28 has been amended as follows:

- - FIGURE 2A-2D depicts the full receptor recognition factor nucleic acid sequence and the deduced amino acid sequence derived for the ISGF-3α gene defining the 91 kD protein. The nucleotides are numbered from 1 to 3943 (SEQ ID NO:3), and the amino acids are numbered from 1 to 750 (SEQ ID NO:4).

The first paragraph of Page 18, beginning on line 1 has been amended as follows:

- - FIGURE 3A-3C depicts the full receptor recognition factor nucleic acid sequence and the deduced amino acid sequence derived for the ISGF-3α gene defining the 84 kD protein. The nucleotides are numbered from 1 to 2166 (SEQ ID NO:5), and the amino acids are numbered from 1 to 712 (SEQ ID NO:6). - -

The third paragraph of Page 18, beginning on line 19 has been amended as follows:

- - FIGURE 5a-5b generally presents the results of Northern Blot analysis for the 91/84 kD peptides. Figure 5a presents restriction maps for cDNA clones E4 (top map) and E3 (bottom map) showing DNA fragments that were radiolabeled as probes (probes A-D). Figure 5b comprises Northern blots of cytoplasmic HeLa RNA hybridized with the indicated probes. The 4.4 and 3.1 KB species as well as the 28S and 18S rRNA bands are indicated.

The first full paragraph of Page 19, beginning on line 4 has been amended as follows:

- - FIGURE 7a-7e presents the results of Western blot and antibody shift analyses.

a) Highly purified ISGF-3, fractionated on a 7.0% SDS polyacrylamide gel, was probed with antibodies a42 (amino acids 597-703); a55 (amino acids 2-59); and a57 (amino acids 705-739) in a Western blot analysis. The silver stained part of the gel (lanes a, b, and c) illustrates the location of the ISGF-3 component proteins and the purity of the material used in Western blot: Lane a) Silver stain of protein sample used in all the Western blot experiments (immune and preimmune). Lane b) Material of equal purity to that shown in Fig. 4, for clearer identification of the ISGF-3 proteins. Lane c) Size protein markers indicated.

b) Antibody interference of the ISGF-3 shift complex; Lane a) The complete ISGF-3 and the free ISGF-3γ component shift with partially purified ISGF-3 are marked; Lane b) Competition with a 100 fold excess of cold ISRE oligonucleotide. Lane c) Shift complex after the addition of 1 ml of preimmune serum to a 12.5 µl shift reaction. Lanes d and e) - Shift complex after the addition of 1 µl of a 1:10 dilution or 1 ml of undiluted a42 antiserum to a 12.5 µl shift reaction. - -

The first full paragraph of Page 23, beginning on line 4 has been amended as follows:

- -FIGURE 13 depicts (A) the deduced amino acid sequence (SEQ ID NO:8) of and (B- ~~C~~ D) the DNA sequence (SEQ ID NO:7) encoding the murine 91 kD intracellular receptor recognition factor. - -

The second full paragraph of Page 23, beginning on line 8 has been amended as follows:

- - FIGURE 14 depicts (A) the deduced amino acid sequence (SEQ ID NO:10) of and (B-D €) the DNA sequence (SEQ ID NO:9) encoding the 13sf1 intracellular receptor recognition factor.

The third full paragraph of Page 23, beginning on line 12 has been amended as follows:

- - FIGURE 15 depicts (A) the deduced amino acid sequence (SEQ ID NO:12) of and (B-E€) the DNA sequence (SEQ ID NO:11) encoding the 19sf6 intracellular receptor recognition factor. - -

The bridging paragraph between Pages 37 and 38, beginning on line 23 of Page 37 has been amended as follows:

- - As stated above, the present invention also relates to a recombinant DNA molecule or cloned gene, or a degenerate variant thereof, which encodes a receptor recognition factor, or a fragment thereof, that possesses a molecular weight of about 113 kD and an amino acid sequence set forth in FIGURE 1 (SEQ ID NO:2); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding the 113 kD receptor recognition factor has a nucleotide sequence or is complementary to a DNA sequence shown in FIGURE 1 (SEQ ID NO:1). In another embodiment, the receptor recognition factor has a molecular weight of about 91 kD and the amino acid sequence set forth in FIGURE 2 (SEQ ID NO:4) or FIGURE 13 (SEQ ID NO:8); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding the 91 kD receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 2 (SEQ ID NO:3) or FIGURE 13 (SEQ ID NO:8). In yet a further embodiment, the receptor recognition factor has a molecular weight of about 84 kD and the amino acid sequence set forth in FIGURE 3 (SEQ ID NO:6); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding the 84 kD receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 3 (SEQ ID NO:5). In yet another embodiment, the receptor recognition factor has an amino acid sequence set forth in FIGURE 14 (SEQ ID NO:10); preferably a

nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding such receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 14 (SEQ ID NO:9). In still another embodiment, the receptor recognition factor has an amino acid sequence set forth in FIGURE 15 (SEQ ID NO:12); preferably a nucleic acid molecule, in particular a recombinant DNA molecule or cloned gene, encoding such receptor recognition factor has a nucleotide sequence or is complementary to a DNA ~~seqnece~~ sequence shown in FIGURE 15 (SEQ ID NO:11). - -

The bridging paragraph between Pages 69 and 70, beginning on line 30 of Page 69 has been amended as follows:

- - A fragment of the gene encoding the human 91 kD protein was used to screen a murine thymus and spleen cDNA library for homologous proteins. The screening assay yielded a highly homologous gene encoding a murine polypeptide that is greater than 95% homologous to the human 91 kD protein. The nucleic acid and deduced amino acid sequence of the murine 91 kD protein are shown in Figure ~~12A-12C~~ 13A-13C, and SEQ ID NO:7 (nucleotide sequence) and SEQ ID NO:8 (amino acid sequence). - -

Page 76, line 11, following the second paragraph has been amended as follows:

EXAMPLE 6: DIMERIZATION OF PHOSPHORYLATED STAT91

The title of the application has also been amended to read:

NUCLEIC ACIDS ENCODING RECEPTOR RECOGNITION FACTORS, ~~PROTEIN SEQUENCES~~ AND METHODS OF USE THEREOF

The Applicants have also requested that the Specification be amended to include the Sequence Listing submitted herewith and enclose a copy of the Sequence Listing for the Examiner's convenience.